

**TOP SECRET**

29 AUG 68 02Z

OUT 65839

TOP SECRET 292155Z AUG 68 CITE [REDACTED] 4487

PRIORITY [REDACTED]

CORONA

SUBJECT: SO-182 EXPERIMENT, MISSION 1104-2

REF: [REDACTED] 3679 *1N7028*

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1. THE PREDOMINANCE OF CORONA-INDUCED FOG ON THE SUBJECT FILM AS DESCRIBED IN THE REFERENCED MESSAGES CAUSES CONCERN AS TO THE INTERPRETABILITY OF THE FILM. THIS OFFICE, BEING THE COMPONENT RESPONSIBLE FOR ISSUING THE EVALUATION CABLE (REF) THEREFORE DEEMS IT APPROPRIATE TO FURTHER EXPOUND ON THE POSSIBLE CONSEQUENCES OF MISINTERPRETING THE SIGNIFICANCE OF THE COLOR RENDITION.

2. FOLLOWING ARE SEVERAL POINTS WORTH OF CONSIDERATION:

A. THE CORONA STATIC-INDUCED FOG CAUSES A GENERAL RED CAST OF VARYING SATURATION IN THE AFFECTED AREAS. THE CORONA DISCHARGE IS EITHER LOW INTENSITY BLUE LIGHT OR AN ENERGY ONLY AFFECTING THE CYAN LAYER OF THE EMULSION, AND THEREFORE IS IMAGED AS RED. THAT RED IS NOT ASSOCIATED WITH INFRARED ENERGY.

B. THE CORONA-INDUCED FOG IS ADDITIVE TO THE IMAGE. THEREFORE RED IMAGE SATURATION MAY BE EXAGGERATED AND OTHER COLORS CONTAMINATED.

C. IN ADDITION TO THE CORONA FOG ASSOCIATED PROBLEMS, THERE ARE COLOR RENDITION ANOMALIES CHARACTERISTIC OF THE CAMERA SYSTEM. BECAUSE THIS IS A PANORAMIC SYSTEM, THE RELATIONSHIP OF THE PRINCIPAL RAY (LOOK ANGLE) TO THE SOLAR POSITION VARIES ACROSS THE FORMAT. EXPOSURE AND COLOR BALANCE THEREFORE, ALSO VARY IN ASSOCIATION WITH SCAN ANGLE. AN ADDITIONAL EXPOSURE/COLOR BALANCE VARIATION CAN BE EXPECTED FROM FRAME TO FRAME AS THE SOLAR ELEVATION CHANGES WITH RESPECT TO VEHICLE POSITION.

D. FINALLY, THERE ARE CERTAIN INHERENT CHARACTERISTICS OF SO-182 FILM THAT NEED TO BE CONSIDERED. FOR INSTANCE, HEALTHY VIGOROUS VEGETATION WILL BE IMAGED DIFFERENTLY DEPENDING ON ITS COLOR AND ITS INFRARED REFLECTING CHARACTERISTICS. A BALSAM POPLAR, FOR INSTANCE REFLECTS APPROXIMATELY 72 PERCENT OF THE 900 MILLIMICRON WAVE LENGTH ENERGY INCIDENT UPON IT, WHILE A YELLOW BIRCH REFLECTS ONLY ABOUT 45 PERCENT OF THE SAME WAVE LENGTH ENERGY.

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	RRD	
	REPRO	
5	AID	
7	IEG/OC	
	PROD	
	SCIEN	
	WEST	
	EAST	
	M&S	
	PGM	
6	IAS	
	DIA-XX4	
	SPAD	
	DIA-AP	
		25X1
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WITH TEXT

3. THE FOREGOING NOTES SHOULD NOT BE CONSTRUED AS A CONDEMNATION OF THE PRODUCT. THE POINTS ARE MADE ONLY TO INDICATE THE CARE WITH WHICH THIS PRODUCT SHOULD BE EXPLOITED.

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END OF MESSAGE

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